

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions, and listings, of claims in the captioned patent application:

Listing of Claims:

1. (Currently Amended) A wearing parts system for a tool of an earth moving machine comprising:

a holder part, attached to the tool and comprising a holder beak; and

a replacement part comprising a hollow, configured to grip the holder beak such that said holder beak is at least partially fitted, along a line of symmetry extending longitudinally through the holder beak, into said replacement part, and further configured to be fixed therein by means of a locking mechanism inserted through both the holder part and the replacement part substantially perpendicularly with respect to the line of symmetry, and

a plurality of mutually interacting pairs of contact elements, disposed on each of said holder part and said replacement part, substantially symmetrically offset from the line of symmetry, comprising:

at least one pair of front contact zones disposed at the distal end of the holder beak and substantially symmetrically disposed on either side of the line of symmetry, and

at least one pair of rear contact zones configured to increasingly taper proximally with respect to the line of symmetry and disposed at the proximal end of the holder beak and substantially symmetrically disposed on either side of the line of symmetry; and

at least two interacting joints comprising radial projections extending from the holder beak from each of said at least one pair of rear contact zones, and corresponding radial recesses disposed in the replacement part into each of said at least one pair of rear contact zones,

wherein said at least one pair of front contact zones further comprise a holder beak collar comprising an end face perpendicular with respect to the line of symmetry and configured to extend around the distal end of said holder beak between said radial projections, and

further wherein said at least one pair of rear contact zones further comprise a radial recess collar opposite said holder beak collar and comprising an end face perpendicular with respect to the line of symmetry and configured to extend around the proximal end of said replacement part between said radial recesses;

wherein said at least two interacting joints are configured to provide a common rotational axis between them substantially perpendicular to the direction of fitting of the locking device and substantially perpendicular to the insertion path of said locking mechanism into said holder part and the replacement part, wherein the recesses each comprise a recess end face, and the projections each comprise a projection end face, wherein each recess end face and projection end face are configured to interact so as to limit the pushing-on of the replacement part over the holder part and further configured to ensure that the contact area between each corresponding recess end face and projection end face is an initially small contact area at a common center of each of said radial projections, and as the wear has progressed to said recess end face about the common center, that the contact area between each corresponding recess end face and projection end face is increased to a larger contact area, while at the same time the distance between the end faces of the interacting joints at their common center is substantially less than the distance between the respective end faces of said holder beak collar and said radial recess collar the collars such that there is play 24 between the collars.

2. (Previously Presented) Wearing parts system according to claim 1, wherein the locking mechanism comprises:

at least one locking device, comprising at least a first, a second and a third section wherein the first section is configured to have the widest cross section and the third section is configured to have the smallest cross section among the first, second and third sections, configured to be placed through interacting openings disposed within both the holder part and the replacement part, such that when the locking device is placed through the openings in the replacement part and the holder part, three longitudinal sections are defined in the openings, in which the first section is configured to have the widest cross section, whilst the third section of the locking device opening through which the locking device is lastly inserted is configured to have the smallest cross section.

3. (Previously Presented) Wearing parts system according to claim 2, wherein the locking device comprises a rigid locking device body having an elastic material inlaid into the locking device body, wherein the material is configured to load at least one movable engagement part toward a predetermined position.

4. (Previously Presented) Wearing parts system according to claim 2, wherein the locking device comprises at least two movable engagement parts loaded by elastic material, wherein the engagement parts are constituted by a securing plate for detachable blocking of the locking device in a predetermined locking position, and a compression plate configured to load via its elastic material the contact elements of the replacement part and of the holder part against each other.

5. (Previously Presented) Wearing parts system according to claim 2, wherein the locking device comprises a hollow for the elastic material, wherein the hollow has a first gap opening configured to allow an expansion of the elastic material when the elastic material is subjected to load during the removal of the locking device, and one or more further gap openings configured to project beyond the body of the locking device when the locking device is free from external loads.

6. (Previously Presented) Wearing parts system according to claim 2, wherein the locking device opening through the holder beak of the holder part comprises a first portion in the direction of fitting which is at least wider in a first direction than a corresponding second portion of the body of the fitted locking device, which portion of the locking device opening comprises a first segment and a second segment, wherein the first segment, which is wider than the corresponding locking device body in the first direction, comprises a cavity configured to secure plate in an extended position blocking the locking device, whilst the second segment comprises or is configured to form a space configured to allow an expansion of the elastically deformable resilient material when the second segment is subjected to load during the removal of the locking device.

7. (Previously Presented) Wearing parts system according to claim 2, further comprising a pin disposed on the inner side of the roof of the hood and configured to connect to the locking device opening through the hood of the tine part, and further configured to affix to the securing plate of the locking device.

8. (Previously Presented) Wearing parts system according to claim 7, wherein a bevel, configured to widen downward in the direction of fitting of the locking device, is disposed on that side of the locking device body facing toward the said pin, and configured such that the locking device body and the pin are free from contact with each other.

9. (Previously Presented) Wearing parts system according to claim 2, wherein a cross section through the body of the fitted locking device level with the inner side of the roof of the hood consists of a homogeneous, solid, unbroken cross section or a cross section which is unbroken to the extent of at least 50% or more.
10. (Previously Presented) Wearing parts system according to claim 2, wherein a leverage ratio from the line of symmetry to the common center between the hood of the tine part and the holder part is equal to zero or less than the radius of the one or more projections.
11. (Cancelled)
12. (Previously Presented) Wearing parts system according to claim 10, wherein the radius for respective one or more recesses are larger than the radius for corresponding one or more projections.
13. (Previously Presented) Wearing parts system according to claim 2, wherein the two rear contact zones are configured with a greater angle of inclination to the line of symmetry of an inner, longitudinal peripheral line along the locking device opening through the beak than of an outer, collateral longitudinal peripheral line.
14. (Previously Presented) Wearing parts system according to claim 2, wherein the various contact faces comprise a plurality of different inclinations, conicities and roundings, several being parallel but laterally offset.
15. (Previously Presented) Wearing parts system according to claim 2, wherein one or more torque loads caused by the rotation of the replacement part in relation to the holder part are configured to be absorbed directly or after a certain minor wear by at least one of the front contact zones in interaction with at least the rear contact zones on the interacting joints.